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the second and third are broader than long, the first and fourth longer than broad, and with an angle on the outer anterior side of the crown. There is an inflection or groove of the enamel on both inner and outer sides of the crown, and one enamel area before and one behind them on all excepting the last molar, where there are two in front. First nearly twice as large as last molar. Lower incisor with smooth enamel, and angulate on the extero-anterior border. Ramus stout. Length of molar series m. .016; length of first molar m. .005; width of first molar m. .004; width of last molar m. .0035; transverse diameter of incisor m. .004; depth of ramus at m. 2.012.

The regular diminution of the size of the teeth from front to rear is characteristic of this species; according to Dr. Leidy their reduction in size in the *S. nebrascensis* is more abrupt. The latter species is said to be of Miocene age.

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DECEMBER 15.

The President, Dr. RUSCHENBERGER, in the chair.

Twenty-two members present.

*Remarks on Fossils presented.*—Prof. LEIDY remarked that the collection of fossils presented this evening by Lieut. E. Crawford, U. S. A., contained some interesting specimens. Among them are a number of tertiary vertebrate remains, which were found by Lieut. Crawford about ten miles from Red Cloud Agency, Nebraska. They mainly consist of fragments of bones and teeth, similar to those which he had previously ascribed to Titanotherium. The specimens indicate two individuals differing in size.

A lower jaw fragment, contains a last molar, like those represented in Plate XVI. of the Ancient Fauna of Nebraska, except that the external basal ridge is interrupted at the extreme outer part of the lobes of the crown. The fore and aft diameter of the latter has been about 3 inches and 7 lines. The thickness of the jaw just below the fore part of the tooth is little more than two inches.

A number of lower molars exhibiting evidences of having belonged together indicate a larger animal than the former. The last molar has lost its hinder lobe, but without this is as large fore and aft as in the specimen first indicated. When perfect, it was about  $4\frac{1}{2}$  inches antero-posteriorly. In this likewise the basal ridge is interrupted at the extreme outer part of the lobes of the crown. The crown of the second molar, well-worn, is 35 lines fore and aft.

The three premolars have the same constitution as the molars, and rapidly diminish in size, passing forward in the series. The first premolar is 14 lines fore and aft; the second is 19 lines; and the third is 22 lines.

The lower series of three premolars and three molars has measured in its complete condition about 14 inches in length.

The isolated canine tooth, which I suppose to have pertained to the lower jaw, is a remarkable tooth, and has more of the usual characters of an incisor tooth. The crown is short, conical, and robust, and is bounded internally with a thick basal ridge. The length of the crown in its present worn condition is 13 lines; its width at base from without inwardly, about the same measurement, and from side to side 11 lines.

Of several imperfect thoracic vertebræ, one of the best preserved has the body over 2 inches long at the lower margin and about  $3\frac{1}{2}$  inches in breadth. The centre are strongly concavo-convex.

The head of a thigh-bone is about 4 inches in diameter, and has a large deep pit on its inner side for a terete ligament.

The distal end of a thigh-bone is 6 inches in transverse diameter, and the trochlea for the patella is over 3 inches wide.

Accompanying the *Titanotherium* remains are the shells of two turtles pertaining to the species *Stylemys nebrascensis*.

The remaining fossils of the collection are mainly cretaceous, and were obtained by Lieut. Crawford in various localities of Dakota. Among them are several large specimens of *Inoceramus problematicus* in nodules of iron stone, and fragments of *Baculites compressus*, together with several vertebræ of fishes, etc.

*On the Characters of Symborodon.*—Prof. COPE stated that the fossil mammalian remains from near the Red Cloud Agency, Dakota, presented this evening, probably belonged to a species of *Symborodon*. He remarked that that genus differs from *Titanotherium* (or *Menodus*) in the entire absence of inferior incisor teeth, and the close approximation of the canines. In the last-named genus the canine teeth of the lower jaw are widely separated by four well-developed incisors. Dr. Leidy had included species of *Symborodon* in his descriptions of *Titanotherium Proutii*; thus nearly or quite all of the portions of upper jaws described and figured by him as belonging to the latter genus, really pertained to the former, hence the erroneous assertion that *Symborodon* and *Titanotherium* are identical. The upper jaw and superior teeth, with the possible exception of one or two molars, of *Titanotherium Proutii* are unknown. He added that in a few days his figures of corresponding parts of the lower jaws of the two genera would appear (in Hayden's Report U. S. Geological Survey Terrs. 1873, Plate II.) and render the point clear.

*On Dr. Leidy's "Correction."*—Prof. Cope stated that his record of Dr. Leidy's views on the Fossil Reptilia of the Upper Missouri Lignite, contained in Hayden's Bulletin, U. S. Geological Survey Territories, No. 2, p. 7, which Dr. Leidy had deemed inaccurate,<sup>1</sup> expressed, as nearly as the case would admit of, the conclusions to

<sup>1</sup> Proceedings of the Academy, 1874, p. 73.

be found in Dr. Leidy's paper quoted. Thus, while it is true that it is there remarked of the remains of *Hadrosaurus occidentalis*, "I suspect to be a Dinosaurian, though they may have belonged to a Mammalian," he placed the genus "Thespesius," to which he referred the species, under the capital heading "Mammalia." The paper (*Proceedings Academy*, 1856, 312) was divided into the headings, Mammalia, Chelonia, and Pisces, and the species numbered, and *Thespesius occidentalis* stands No. 4 under the first-named heading. In regard to the genus *Ischyrosaurus* which was also originally referred to the Mammalia, Dr. Leidy objected that his modified views had not also been quoted in the before-mentioned bulletin. Prof. Cope stated that he had already reprinted those later views in the *Extinct Batractria and Reptilia of North America*, p. 39, as follows; "although *I have supposed* the remains . . . to indicate . . . an animal allied to the manatee . . . *I have suspected* that they have belonged to an aquatic reptile unlike any known."

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DECEMBER 22.

The President, Dr. RUSCHENBERGER, in the chair.

Twenty members present.

*Notices of Rhizopods.*—Prof. LEIDY remarked that in the last number of the *Archiv für Mikroskopische Anatomie*, presented this evening, there was an interesting paper by F. E. Schulze, entitled *Studies of the Rhizopods*. With the exception of one new species, all of those represented in one of the accompanying plates, Taf. V., which had been previously described by others, he was familiar with, as common in the vicinity of Philadelphia. The genera and species are as follows: *Euglypha alveolata*, Dujardin; *E. compressa*, Carter; *E. globosa*, Carter; *Trinema acinus*, Dujardin; and *Cyphoderia margaritacea*, Schlumberger. Besides these, of nearly related forms, he had found *Euglypha spinosa*, Carter, and several other species apparently undescribed.

1. *Euglypha alveolata*, Dujardin. *E. tuberculata*, Duj.

? *Diffugia setigera*, Ehrenberg.

This species has an egg-shaped test, with over-lapping elliptical scales which in one focus appear hexagonal in outline. The oral scales are acute, and minutely denticulate. From two to six or more spines project from the sides of the fundus of the test. The largest specimens measure 0.132 mm. long, 0.08 mm. broad, with the mouth 0.028 mm. The smallest ones measured 0.08 mm. long, 0.04 mm. broad, with the mouth 0.016 mm. This species is common in the ponds and ditches in the neighborhood of the city.